ROCKTRON

TECHNOLOGY FOR GUITARISTS

CYBORG™

DIGITAL DESTINY

DIGITAL DISTORTION PEDAL

Operation Manual

May be covered by one or more of the following: U.S. Patents #4538297, 4647876, 4696044, 4745309, 4881047, 4893099, 5124657, 5263091, 5268527, 5319713, 5333201, 5402498 and 5493617. Other patents pending. Foreign patents pending.

HUSH® is a registered trademark of GHS Corporation

Your Cyborg™ Digital Distortion pedal has been designed to comply with the following Standards and Directives as set forth by the European Union:

Council Directive(s): 89/336/EEC Electromagnetic Compatibility

Standard(s): EN55013, EN50082-1

This means that this product has been designed to meet stringent guidelines on how much RF energy it can emit, and that it should be immune from other sources of interference when properly used. Improper use of this equipment could result in increased RF emissions, which may or may not interfere with other electronic products.

To insure against this possibility, always use good shielded cables for all audio input and output connections. This will help insure compliance with the Directive(s).

For more information about other Rocktron products, please see your local dealer or one of our importers closest to you (listed on the Rocktron website - www.rocktron.com).

Precautions

Read all instructions contained in this manual.
Keep these instructions
Heed all warnings
Follow all instructions.
Do not use this apparatus near water.
Clean with dry cloth

Copyright © 2007 GHS Corporation
All Rights Reserved.

Precautions Continued....

Do not block any ventilation openings (if applicable). Install in accordance with the manufacturer's instructions.
Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
This product is supplied with and runs on a 9VDC adapter.
Only used attachments/accessories specified by the manufacturer.
Do not use this product with any case, stand tripod, bracket or table that is not specified by the manufacturer. Insure that the case, stand, tripod, bracket etc. is properly adjusted and setup (follow all instructions). Extra care and caution should be taken to avoid tip over and injury.
Unplug this apparatus during lightning storms or when unused during long periods of time.

Refer all service to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply or plug is damaged, liquid has been spilled or objects have fallen into the apparatus or if the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

DO NOT ATTEMPT TO SERVICE THIS EQUIPMENT. QUALIFIED PERSONNEL SHOULD SERVICE THIS EQUIPMENT ONLY. DO NOT MAKE ANY INTERNAL ADJUSTMENTS OR ADDITIONS TO THIS EQUIPMENT AT ANY TIME OR TAMPER WITH INTERNAL ELECTRONIC COMPONENTS AT ANY TIME. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY VOID THE WARRANTY OF THIS EQUIPMENT AS WELL AS CAUSING A SHOCK HAZARD.

OPERATING TEMPERATURE

Do not expose this unit to excessive heat. This unit is designed to operate between 32º F and 104º F (0º C and 40º C). This unit may not function properly under extreme temperatures.

Introduction

Congratulations on your purchase of the Rocktron Cyborg Digital Distortion.

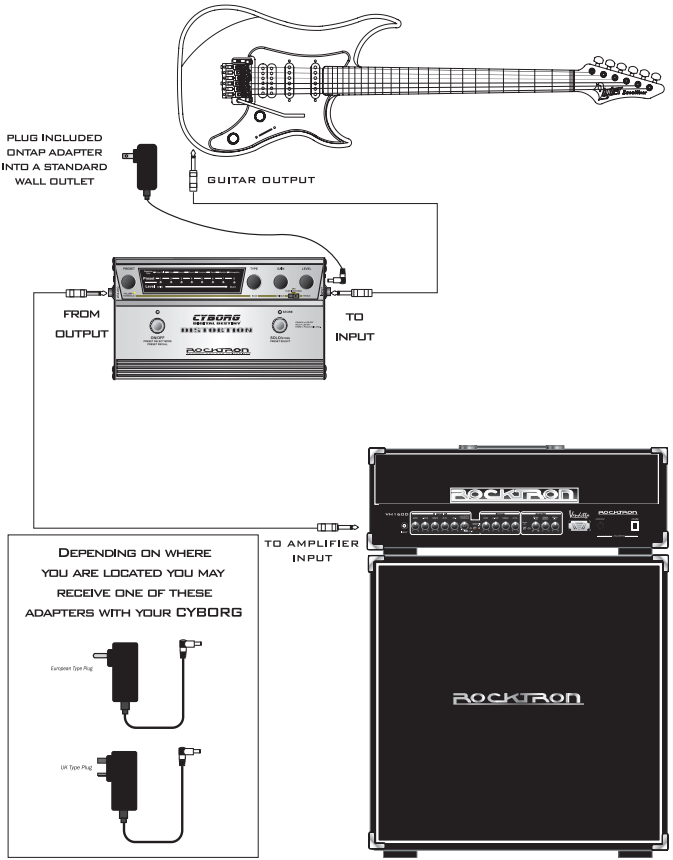
The Cyborg Digital Distortion is one of a series of "Digital Destiny" stomp boxes that break new ground in the world of floor effects excellence. Simple to use, while offering instant access effects, or satisfying those who crave more complex control and the ability to create a plethora of additional presets.

Rocktron has designed the Cyborg series around a state-of-the-art Motorola® DSP engine. We've included our HUSH® noise reduction technology, and provided you with full bandwidth performance. We've cut no corners in the design of these digital stomp boxes.

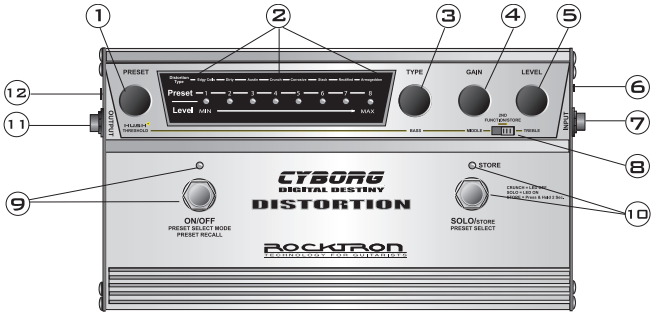
Cyborgs are fully MIDI programmable and controllable and Cyborgs can be chained together and controlled by a single Rocktron MIDI controller.

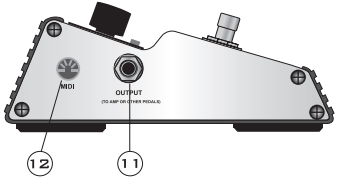
Look for other Cyborg Digital Destiny pedals at your Rocktron retailer.

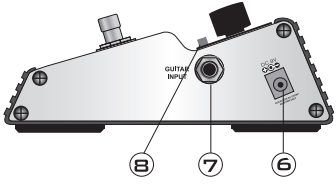
Connection 1 - Standard Connection


PLUG INCLUDED ONTAP ADAPTER INTO A STANDARD WALL OUTLET
GUITAR OUTPUT
FROM OUTPUT
TO INPUT
CYBORG DIGITAL DESTROY DISTORTION
ROCKTRON
TO AMPLIFIER INPUT
DEPENDING ON WHERE YOU ARE LOCATED YOU MAY RECEIVE ONE OF THESE ADAPTERS WITH YOUR CYBORG
European Type Plug
UK Type Plug

Descriptions







BOTTOM

Descriptions

1 **PRESET/HUSH Threshold Knob** - this control knob has two functions.

1) This knob allows you to select the "preset" you desire. Eight presets are available with this control. As the knob is turned the LED under the selected preset will light.

2) When the "Second Function" Switch is engaged (see point 8) this knob allows you to adjust the HUSH Threshold of each preset (see section on built in HUSH Noise Reduction for more information).

2 **LED Display** - see following page for detailed descriptions of display.

3 **TYPE/BASS Knob** - this knob has two functions

1) Allows you to select the desired "Distortion Type" for each preset. As you turn the knob you will note that the LEDs in the LED display will light in order from left to right with the following types:

Edgy Coils - (Great Single Coil Distortion)
Dirty - (Dirty Distortion)
Austin - (Famous Texas Distortion)
Crunch - (Kickin Bluesy Distortion)
Corrosive - (Hard edge Grind Distortion)
Stack - (Huge Amp Stack Distortion Tone)
Rectified - (Modern Heavy Distortion)
Armageddon - (Heavy Metal Distortion)

2) When the "Second Function" switch is engaged (see point 8) this knob allows you to adjust the BASS frequencies of the Distortion Type selected.

4 **GAIN/MIDDLE Knob -** this knob has two functions:

1) Allows you to select the amount of GAIN added to each preset. The Gain structure is different on each of the 8 Distortion Types. This allows for a very wide array of distortion tones. As you increase the GAIN the LEDs in the LED display will light in order from left to right and stay lit. As you decrease the volume of the GAIN the LEDs will turn off from right to left.

2) When the "2ND FUNCTION" switch is engaged to the Right (see point 8) this knob allows you to adjust MIDDLE frequencies of the Distortion Type selected.

5 **LEVEL/TREBLE Knob -** this knob has two functions:

1) Allows you to determine the "volume" of each preset. As you increase the volume the LEDs in the LED display will light in order from left to right and stay lit. As you decrease the volume of the distortion the LEDs will turn off from right to left.

2) When the "Second Function" switch is engaged (see point 8) this knob allows you to adjust the TREBLE frequencies of the Distortion Type selected.

6 **DC OnTap Power input -** use the supplied Rocktron DC OnTap adapter to power your Cyborg pedal. Plug into a standard wall outlet and follow all safety precautions.

7 **Input Jack -** plug your guitar into this jack. See preceding pages for standard connections.

8 **2nd FUNCTION/STORE Switch -** this knob allows you to switch in the 2nd FUNCTION to access the second list of programming parameters. When the switch is to the left the knobs control the PRESET, TYPE, GAIN and LEVEL of each preset. When the switch is to the right the knobs control the HUSH Threshold, BASS, MIDDLE and TREBLE for each preset.

In addition the 2nd Function switch must be to the right in order to store any changes you have made with the SOLO/Store Switch.

Note: When the 2nd Function mode is active the LED DISPLAY will have a distinctive vibrating look. Once you have finished using the 2nd Function it is recommended that you exit the 2nd Function mode by switching the 2nd Function switch to the left. This will avoid any possible overwriting of preset data. So Please remember:

VIBRATING LED DISPLAY = Unprotected data. [2nd Function active ready to store on command]
STEADY LED DISPLAY = Protected data. [Pedal in Normal performance mode]

9 **ON/OFF - PRESET SELECT MODE - RECALL Switch and LED** - this switch has three functions:

o ON/OFF - this switch is used to turn ON and OFF the Cyborg Distortion. When the LED is lit solid (not blinking) the distortion preset is active.

o PRESET SELECT MODE - You can change presets on the Cyborg Distortion using the Preset Select Knob (Point 1) or you can use your foot to select the preset. To enter the PRESET SELECT MODE press and hold the ON/OFF - PRESET SELECT MODE - RECALL switch for less than 2 seconds. The LED above the switch will now be blinking and you will be in PRESET SELECT MODE. Then use the SOLO/STORE PRESET SELECT switch to scroll through the presets.

o RECALL (Preset Recall) Once you have selected the desired preset with the SOLO/STORE PRESET SELECT switch you will see the ON/OFF PRESET SELECT - RECALL switch led blinking which indicates that the Cyborg is ready to “recall” or activate the selected preset whenever you want to. Once the PRESET SELECT - RECALL switch is pressed again the CYBORG DISTORTION will RECALL the preset then exit the PRESET RECALL MODE and return to the NORMAL operation MODE .
The ON/OFF - PRESET SELECT MODE - RECALL switch will now function as the ON/OFF function

10 SOLO/STORE - PRESET SELECT SWITCH and STORE LED - this switch has three functions:

o SOLO Mode - Each preset of the Cyborg Distortion has two modes, Crunch mode and Solo Mode. When you turn ON the Cyborg Distortion (Point 9) it is in Crunch mode and to access the Solo Mode you press this switch. When Solo Mode is engaged the Store LED is lit.

Note, however, that all presets on the Cyborg Distortion can be overwritten. If you want to make the Crunch preset a heavy solo preset and the Solo preset a very soft distortion you can do that by saving the presets you like. [Please read STORE Mode for more details.]

Important note: Before you can STORE any changes the 2ND FUNCTION/STORE switch must be to the right. The led display will have a vibrating appearance when 2nd Function mode is active.

o STORE Mode - Use this function to STORE (or save) changes you have made to a preset. To operate the STORE function, press and hold the SOLO/STORE switch down for 2 seconds. The leds will stop vibrating and the SOLO LED will blink to indicate success. After this the display will return to 2nd Function status as the leds will be vibrating.

o PRESET SELECT - Use this function to select a desired preset. To enter the PRESET SELECT mode:

1. Press and hold the ON/OFF switch (Point 9) down for 2 seconds, the LED above the SOLO/STORE switch will blink indicating you are in PRESET SELECT MODE.

2. Now use the SOLO/STORE PRESET SELECT switch to select the desired preset. You will note that the presets scroll from 1 through 8 in sequence and then back to 1 again on the LED Display (Point 2).

Note that at this point the desired preset LED is now blinking along with the ON/OFF led indicating waiting to recall status. To RECALL the desired preset you press the blinking ON/OFF switch All leds will stop blinking and the desired preset will be active.

11 **Output Jack** - Using a standard guitar cable with a 1/4” jack, plug into your amplifier or the next effect pedal in your signal chain.

12 **MIDI Jack** - Using the supplied Rocktron MIDI Breakout Cable you can connect the Cyborg Pedal to a Rocktron MIDI Foot controller such as the Rocktron MIDI XChange, MIDI Mate or All Access. This feature allows you to access all 128 presets and even connect other Cyborg pedals to be controlled by the MIDI foot controller.

Basic Operation

BASIC OPERATION

The Cyborg Distortion has 16 presets that are immediately available (with a MIDI Pedal you can access 128 presets).

You will notice that on the LED Display there are presets numbered 1 through 8. Each of those presets has a “secondary” preset for a total of 16 presets.

For example, use the ON/OFF button to turn on preset 1. Then, use the SOLO/ STORE - PRESET SELECT button to activate the “SOLO” preset within Preset 1. Thus, you have the Preset 1 plus the SOLO preset all within Preset 1. The same is true for Preset 2, you have Preset 2 and with the SOLO button activated you have the SOLO preset.

The Cyborg Distortion is delivered with the presets already set up so that you have a killer preset when you turn on the unit which is ideal for playing rhythm and background parts. When you activate the SOLO mode you may want more drive and volume so you can cut through the mix. This is how the Cyborg has been pre-programmed for you.

This gives you the ability to have a 3 channel configuration per preset.

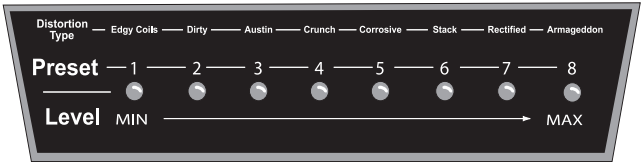
CLEAN = PEDAL IN BYPASS

CRUNCH= Distortion setup for Rhythm background work.

SOLO = Set up with more GAIN and LEVEL to cut through the mix.

However, note that you can change all parameters on all presets to suit your needs, if you want the SOLO to actually be a different distortion all together all you need to do is make the adjustments to the preset while in SOLO mode and then STORE those changes.

LED Display



The Cyborg's LED Display consists of 8 LEDs that are used to visually show the user:

1) The DISTORTION TYPE
2) The PRESET selected (1-8)
3) The LEVEL setting indicates each parameters value including level, HUSH Threshold, Gain, Bass, Mid and Treble.

As an example, lets choose preset 1. First, turn the Preset Knob until the LED under the number 1 is "lit". You now have selected Preset 1. On Preset 1 you have the following parameters available

1) TYPE CONTROL (DISTORTION TYPE)- Turning the Type control, the LED will change depending on the TYPE of Distortion you are selecting, however, you are still on Preset 1, even though the LED is changing when you turn the TYPE knob.

2) The LEVEL setting parameter shows the LEVEL settings of the following parameters:

3) The GAIN Control Knob. Turning the GAIN control knob will light LEDs in the display to show you the amount of GAIN that you have selected within the preset. To see the current GAIN setting of the preset, turn the knob only one click. This will cause the LEDs to light showing your current setting. To change the setting continue turning the knob. Turning the knob clockwise will increase the

GAIN and the LEDs will light from left (MIN) to right (MAX). To decrease the amount of GAIN turn the knob counter-clockwise and the LEDs will turn off from right (MAX) to left (MIN).

4) The Level Control Knob

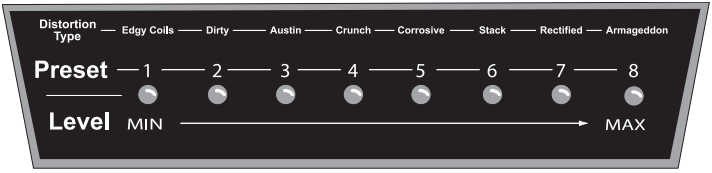
Turning the Level Control knob will light LEDs in the display to show you level of the DISTORTION. To see the current level for this preset, turn the knob only one click. This will cause the LEDs to light showing your current setting. To change the setting continue turning the knob. Turning the knob clockwise will increase LEVEL (Volume) of the preset and the LEDs will light from left (MIN) to right (MAX). Turning the knob counterclockwise will decrease the LEVEL (Volume) of the preset the LEDs will turn off from right (MAX) to left (MIN).

5) The HUSH THRESHOLD Control Knob

When the "2ND FUNCTION" switch is switched to the right, the led displays will appear to be vibrating, turning the HUSH THRESHOLD knob will light LEDs in the display to show you the HUSH THRESHOLD that you have selected within the preset. To see the current HUSH THRESHOLD setting of the preset, turn the knob only one click. This will cause the LEDs to light showing your current setting. To change the setting continue turning the knob. Turning the knob clockwise will increase the HUSH THRESHOLD and the LEDs will light from left (MIN) to right (MAX). To decrease the HUSH THRESHOLD turn the knob counter-clockwise and the LEDs will turn off from right (MAX) to left (MIN). See the HUSH section for more information on the HUSH function.

6) The BASS Control Knob

When the "2ND FUNCTION" switch is switched to the right, turning the BASS control knob will light LEDs in the display to show you the amount of BASS frequencies that you have selected within the preset. To see the current BASS setting of the preset , turn the knob only one click. This will cause the LEDs to light showing your current setting. To change the setting continue turning the knob. Turning the knob clockwise will increase the BASS and the LEDs will light from left (MIN) to right (MAX). To decrease the amount of BASS turn the knob counter-clockwise and the LEDs will turn off from right (MAX) to left (MIN).



7) The MIDDLE Control Knob

When the "2ND FUNCTION" switch is switched to the right, turning the MIDDLE control knob will light LEDs in the display to show you the amount of MIDDLE frequencies that you have selected within the preset. To see the current MIDDLE setting of the preset , turn the knob only one click. This will cause the LEDs to light showing your current setting. To change the setting continue turning the knob. Turning the knob clockwise will increase the MIDDLE FREQUENCIES and the LEDs will light from left (MIN) to right (MAX). To decrease the amount of MIDDLE FREQUENCIES turn the knob counter-clockwise and the LEDs will turn off from right (MAX) to left (MIN).

8) The TREBLE Control Knob

When the "2ND FUNCTION" switch is switched to the right, turning the TREBLE control knob will light LEDs in the display to show you the amount of TREBLE frequencies that you have selected within the preset. To see the current TREBLE setting of the preset , turn the knob only one click. This will cause the LEDs to light showing your current setting. To change the setting continue turning the knob. Turning the knob clockwise will increase the TREBLE and the LEDs will light from left (MIN) to right (MAX). To decrease the amount of TREBLE turn the knob counter-clockwise and the LEDs will turn off from right (MAX) to left (MIN).

How to STORE a preset

Lets say you want to make a change to preset 1. Follow these steps (note that you can store the preset at anytime during this process).

1) Turn the TYPE knob to pick the desired DISTORTION TYPE

2) Turn the GAIN knob to dial in the desired amount of GAIN

3) Use the LEVEL knob to determine the overall LEVEL of the preset

4) Move the 2ND FUNCTION switch to the RIGHT all led displays will appear to be vibrating..

5) Use the HUSH Threshold knob to determine the THRESHOLD LEVEL of the HUSH.

6) Use the BASS knob to determine the amount of BASS

7) Use the MIDDLE knob to determine the amount of MIDDLE FREQUENCIES.

8) Use the TREBLE knob to determine the amount of TREBLE

9) Move the 2ND FUNCTION switch to the LEFT

10) Press and HOLD the SOLO/STORE - PRESET SELECT switch down for two seconds.

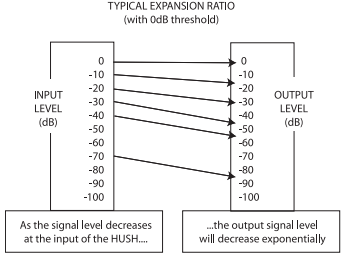
The preset is now stored.

To store a preset at any time during the preset change the 2ND FUNCTION switch must be switched to the RIGHT.

HUSH®

HUSH® is Rocktron's patented single-ended noise reduction system, and is available in all presets. The HUSH system provided in the Cyborg is a fully digital implementation, modeled after the latest analog HUSH design, achieved through Digital Signal Processing (DSP).

The low level expander of the HUSH system operates like an electronic volume control. The analog version of the HUSH system utilizes a voltage-controlled amplifier (VCA) circuit which can control the gain between the input and the output from unity gain to 30, 40 or even 50dB of gain reduction. When the input signal is above the user-set threshold point, the VCA circuit remains at unity gain. (This means that the amplitude of the output signal will be equal to that of the input signal.) As the input signal level drops below the user preset threshold point, downward expansion will begin. It is at this point that the expander acts like an electronic volume control, gradually decreasing the output signal level relative to the input signal level. As the input signal drops further below the threshold point, downward expansion increases (see figure below).



A drop in the input level by 20dB would cause the output level to drop approximately 40dB (i.e., 20dB of gain reduction). In the absence of any input signal, the expander will reduce the gain so that the noise floor becomes inaudible.

MIDI

The Cyborg Distortion pedal has a MIDI jack that allows you to access an additional 112 user presets. Using the included Rocktron MIDI Breakout cable you can access these additional 112 presets (128 total) by using a Rocktron MIDI Controller such as the Rocktron MIDI XChange, MIDI Mate or All Access. This will also allow you to connect and control additional Rocktron Cyborg pedals.

Note that all 128 presets on the Cyborg Distortion may be modified and stored. When using the included MIDI Breakout cable to access the remaining 112 presets you will find that these locations have the original factory presets already stored. Example: Presets 1-8 are repeated in MIDI recall locations, 9-16, 17-24, 25-32, 33-40, 41-48, 49-56 and 57-64 and so on...

See MIDI connections using the included MIDI Breakout cable on the following pages.

Cyborg MIDI Preset Programming

Connect MIDI XChange (or other Rocktron MIDI Controllers) to the CYBORG using the included MIDI Breakout cable as shown in MIDI Connection 1 and 2.

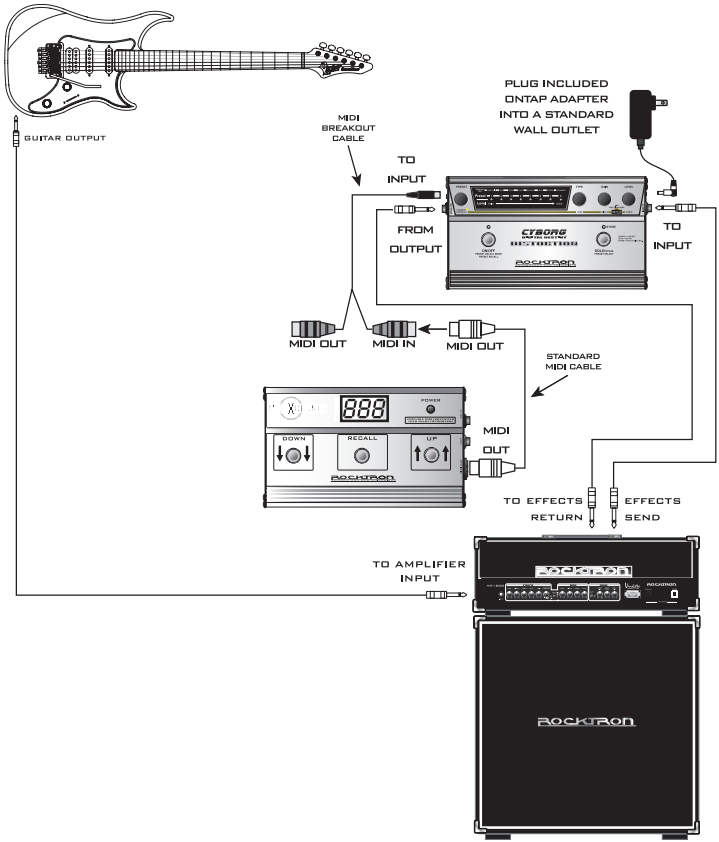
1) To program any preset simply recall the preset to be programmed with your MIDI CONTROLLER.

For Example, Recall preset 32 with your Midi Controller...

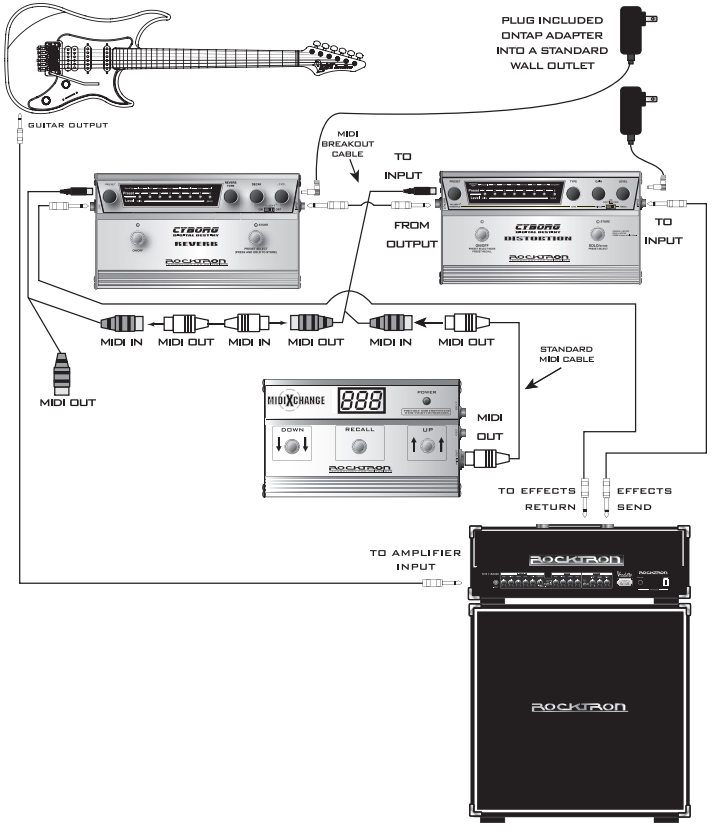
2) Now adjust the preset for both Crunch and Solo modes with control knobs to make your desired changes.

3) Once you have created your preset enter the 2nd Function then press and hold down the SOLO/STORE - PRESET SELECT Button on the Cyborg pedal until the led indicates the store process is completed. (LED will hold bright then turn off)

MIDI - Connection 1



MIDI - Connection 2



Specifications

Maximum Input	+3dBu
Input Impedance	1M Ohm
Current Consumption	1000mA
Freq. Response	20Hz-16KHz A-Weighted
Dynamic Range	93dBu
Power Requirements	Rocktron OnTap DC 9V Adapter
Dimensions	10.5” x 6” x 2.25”

Notes:

Notes:

ROCKTRON

TECHNOLOGY FOR GUITARISTS

CYBORG

DIGITAL DESTINY

DISTORTION

Rocktron - A Division of GHS Corporation
2813 Wilber Ave.
Battle Creek MI 49015
USA

Rocktron Phone: 1-(269)-968-3351
Email: info@rocktron.com

www.rocktron.com

The Rocktron, Cyborg, names and logos, this pedal's shape, design and graphics and this manual's layout, descriptions and designs are TM, © and ® - GHS Corporation, Battle Creek, MI 49015 - - All Rights Reserved

2007-0001
Rev. 05/1/07